**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 27 July 2025 |
| Team ID | LTVIP2025TMID29210 |
| Project Name | Health AI: Intelligent HealthCare Assistant using IBM Granite |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Profile Management | |  | | --- | |  |  |  | | --- | | Manage patient details (Name, Age, Gender,  Blood Type, Profile Pic) | |
| FR-2 | Patient Chat Assistant | |  | | --- | |  |  |  | | --- | | Query submission and AI response using  IBM Granite (Patient Queries | |
| FR-3 | |  | | --- | |  |  |  | | --- | | Disease Prediction | | Symptom input form, AI-based disease prediction with likelihood percentages. |
| FR-4 | |  | | --- | |  |  |  | | --- | | Treatment Plan Generator | | Condition input and AI-generated personalized treatment plan. |
| FR-5 | Health Analytics Dashboard | Display patient health metrics (Heart Rate, BP, Glucose Trends) using Plotly. |
| FR-6 | Navigation and Home Landing Page | Streamlit-based multi-page navigation (Home → Chat → Prediction → Treatment → Analytics). |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | Clean, responsive UI using Streamlit with custom CSS styling for healthcare look. |
| NFR-2 | **Security** | API key management with dotenv, secure IBM Watson API calls, and data confidentiality |
| NFR-3 | **Reliability** | Should handle multiple simultaneous patient queries and API calls without crash |
| NFR-4 | **Performance** | Average AI response time within 2–4 seconds for chat, disease prediction, and treatment generation. |
| NFR-5 | **Availability** | HealthAI should be accessible 24/7 with minimal maintenance, hosted on Replit or Streamlit Cloud. |
| NFR-6 | **Scalability** | Easily extendable to add new AI models (e.g., IBM Granite upgrades) or more healthcare features. |